

# THE COMMITTEE ON ENERGY AND COMMERCE

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## INTERNAL MEMORANDUM



June 22, 2011

### MEMORANDUM

To: Members, Subcommittee on Environment and the Economy

From: Majority Staff

Subject: Hearing Entitled: “NRC Repository Safety Division – Staff Perspective on Yucca License Review”

On Friday, June 24, 2011, at 9:00 a.m. in 2322 Rayburn House Office Building, the Subcommittee on Environment and the Economy will conduct a hearing entitled “NRC Repository Safety Division – Staff Perspective on Yucca License Review.” The hearing will focus on the views of the non-partisan Nuclear Regulatory Commission (NRC) staff that was responsible for conducting the safety evaluation and technical reviews of the license application for the Yucca Mountain repository.

#### I. Witnesses

There will be one panel, composed of U.S. Nuclear Regulatory Commission staff:

Janet P. Kotra, Ph.D,  
Division of High-Level Waste Repository Safety (HLWRS)  
Nuclear Regulatory Commission

N. King Stablein, Ph.D, Branch Chief  
Division of High-Level Waste Repository Safety (HLWRS)  
Nuclear Regulatory Commission

Aby Mohseni, Acting Director  
Division of High-Level Waste Repository Safety (HLWRS)  
Nuclear Regulatory Commission

Lawrence E. Kokajko, Acting Deputy Director  
Office of Nuclear Material Safety and Safeguards (NMSS)  
Nuclear Regulatory Commission

Catherine Haney, Director  
Office of Nuclear Material Safety and Safeguards (NMSS)  
Nuclear Regulatory Commission

## **II. Background**

In 1987, after the Department of Energy (DOE) conducted studies of nine potential sites, Congress selected the Yucca Mountain site in Nevada as the only site for further study for the first national repository of high level radioactive waste and spent nuclear fuel.

In 2002, following extensive evaluation of the site by DOE and its national laboratories, the Secretary of Energy determined that Yucca Mountain was suitable for repository development and recommended the President approve the site for development. Under the Nuclear Waste Policy Act (NWPAct), Nevada submitted a notice of disapproval, but Congress and the President overturned it in Public Law 107-200, reaffirming selection of Yucca Mountain as the site for the repository. On June 3, 2008, DOE submitted to NRC a license application to construct the Yucca Mountain repository.

Since 1983, the NWPAct has authorized collection of one tenth of a cent per kilowatt-hour of electricity generated by commercial nuclear plants to be paid into the Nuclear Waste Fund for the purpose of developing and operating a permanent away-from-reactor repository for spent nuclear fuel. An additional \$5 billion has been paid in by taxpayers because the federal government will store high-level waste in the repository. So far, approximately \$10 billion has been drawn from the Waste Fund by DOE for development of the repository.

Meanwhile, as DOE has fallen behind its statutory and contractual schedules for accepting spent fuel from commercial power plants, the plant operators have been making and collecting claims for damages. According to the Government Accountability Office (GAO), total U.S. taxpayer liability for DOE failure to take title to spent fuel is estimated at \$15.4 billion, currently, and estimated to increase by \$500 million per year for each year beyond 2020 that a repository is not operating.

## **III. Role of the Nuclear Regulatory Commission**

The NWPAct gives the NRC at most four years to review the Department of Energy license application to construct the repository at Yucca Mountain.<sup>1</sup> NRC docketed the DOE application in September 2008. The NRC then commenced a two-pronged review of the application: (1) a technical licensing review by the NRC staff to assess the technical merits of the repository design and formulate a position on whether to issue a construction authorization for the repository, and (2) adjudicatory hearings by the NRC's Construction Authorization Board to consider technical and legal challenges to the application. The Commission, based on a publicly available staff Safety Evaluation Report (SER) and the Board hearings, is to determine solely on the technical merits whether to authorize construction of the repository.

According to NRC, staff from the Division of High-Level Waste Repository Safety (HLWRS), within the Office of Nuclear Material Safety and Safeguards (NMSS), is responsible

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<sup>1</sup> Nuclear Waste Policy Act as amended, Sec. 114(d).

for the independent safety review of the Yucca Mountain repository license-application.<sup>2</sup>

HLWRS staff is supported in the review effort by NRC's contractor, the Center for Nuclear Waste Regulatory Analyses (CNWRA), located at the Southwest Research Institute in San Antonio, Texas. The NRC and CNWRA employ experts and specialists in the scientific and engineering disciplines needed to understand and evaluate the design, performance, and operations of a deep geologic repository, including:

- Geochemists, Hydrologists, and Climatologists
- Chemical, Mechanical, Nuclear, Mining, Materials, and Geological Engineers
- Structural Geologists and Volcanologists
- Health Physicists
- Inspectors and Quality Assurance Engineers

According to NRC, the technical licensing review seeks to determine whether or not the design, performance, and operation of the proposed repository described in DOE's license application comply with all applicable NRC regulations for the disposal of high-level radioactive waste in the proposed geologic repository at Yucca Mountain. These regulations are contained in 10 CFR Part 63, "Disposal of High-Level Radioactive Wastes in a Geologic Repository at Yucca Mountain, Nevada."<sup>3</sup>

As NRC further explains, the NRC prepared a guidance document, called the Yucca Mountain Review Plan (YMRP) to ensure the quality, uniformity, and consistency of NRC staff reviews of the license application, and to provide examples of acceptable methods for demonstrating compliance with the regulations. The YMRP is not a regulation and does not impose regulatory requirements.<sup>4</sup>

In March 2010, DOE filed a motion with the NRC's Construction Authorization Board to withdraw the license application. The Commission directed the Board to decide the motion by June 1, 2010. On June 29, 2010, the Board denied the DOE motion to withdraw the application. Full Commission review of the Board decision is pending. To date, the full Commission has yet to finalize its review of the Board decision.

On October 1, 2010, the NRC staff conducting the technical licensing review, at the direction of NRC Chairman Gregory Jaczko,<sup>5</sup> began commencing "orderly closure" of its Yucca Mountain activities, including terminating work on the outstanding SER volumes.<sup>6</sup> The HLWRS staff proceeded to convert SER volumes into "Technical Evaluation Reports" or TERs, which would describe the staff's technical evaluation and assessment of the DOE safety analysis supporting the repository at Yucca Mountain, consistent with the YMRP, but not make conclusions as to whether or not DOE satisfies the Commission's regulations. The TER for repository safety

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<sup>2</sup> This information is drawn from: [www.nrc.gov/waste/hlw-disposal/licensing/acceptance-safety/safety-review.html](http://www.nrc.gov/waste/hlw-disposal/licensing/acceptance-safety/safety-review.html)

<sup>3</sup> Id.

<sup>4</sup> Id.

<sup>5</sup> See Memo from Hubert T. Bell, NRC Inspector General to Chairman Jaczko, [June 6, 2011](#).

<sup>6</sup> For additional background: see "Closing Yucca Mountain: Litigation Associated with Attempts to Abandon the Planned Nuclear Waste Repository" Congressional Research Service, March 4, 2011 ([R41675](#)).

after closure of Yucca Mountain was scheduled to be released to the public during the second quarter of FY 2011, i.e., by March 31, 2011.<sup>7</sup> It has not yet been publicly released.

#### **IV. Issues**

Issues to be examined at the hearing may include:

- HLWRS staff perspective on the Yucca Mountain license review termination
- Information flow to and policy guidance from the full Commission
- The status of work on the Safety Evaluation Report and the Technical Evaluation Report
- The NRC Inspector General's investigation of the Chairman's Yucca related actions

#### **V. Staff Contacts**

If you have any questions regarding this hearing, please contact David McCarthy or Peter Spencer of the Majority Committee staff at (202) 225-2927.

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<sup>7</sup> Memo from Catherine Haney to Commissioners, Re: Update on the Yucca Mountain Program, [February 4, 2011](#)